

(like via a multi state hierarchical representation), a single VLAN or MPLS-TP can be shown that when instantiated will be converted to a real VLAN or MPLS-TP termination point. Again here, operator will be able to use the automatic selection of a VLAN ID or label or manually define the VLAN directly on the displayed object in the tree.

[0097] Similar to the presentation of the potential ODU TPs, additional information can be shown per presented TP as well. However the advantages for the label solution are the same as for ODU switched networks, e.g. auto-router, performance of the NMS and of course usability.

[0098] FIG. 3 shows the multiplex structure of an optical transport network **300** according to ODU multiplexing structures as defined in ITU G.709.

[0099] As already discussed, in new generation DWDM networks several transport container (transmission layer) exist, i.e. ODUk with k=0 to 4, which can be multiplexed to each other without the need to follow fix containments and multiplex structures. That is, each ODUk (k=1–4 today) can be multiplexed into each ODUk+n in any arbitrary order.

[0100] An ODUk can contain all ODUk–n (LO-ODU). The LO-ODU can be of the same layer only or mixed in each possible combination. However the overall bandwidth can be used only once, i.e. the load of one ODU3 is adequate to e.g. 4×ODU2 or 16×ODU1 or 32×ODU0. In addition ODU2/3e and ODUflex has to be considered. (note: for ODUflex the bandwidth can be modified (increased/decreased) from 2.5 G to 100 G and multiplexed to each HO-ODUk (k=2–4)). That is, no fix multiplicity and relationship to the other ODUk layer can be defined.

[0101] The containment could be ODU1, ODU0, ODU0, ODU3, ODU2, ODUflex, . . . in each possible sequence of all possible ODUks. In addition the multiplexing cannot only be single stage but multistage, i.e. an ODU0 can be multiplexed into an ODU1, the ODU1 again into an ODU2, the ODU2 again into an ODU3 and the ODU3 again into an ODU4. Only ODUflex can be multiplexed to the HO-ODU only, i.e. single stage multiplexing is defined according standards only.

[0102] As shown in FIG. 3 a signal from a client **102** can be mapped into an OPU (optical channel payload unit). This OPU may be multiplexed into an ODU (optical channel data unit). ODUs may be multiplexed directly into an OTU (optical channel transport unit) or may be multiplexed to each other (lower bandwidth ODU to higher bandwidth ODU). In FIG. 3, blocks with hatch indicate mapping and blocks without hatch indicate multiplexing.

[0103] Having regard to the subject matter disclosed herein, it should be mentioned that, although some embodiments refer to specific standards or specific communication techniques, these embodiments are considered to implicitly disclose the respective general term with the desired functionality.

[0104] According to embodiments of the invention, any suitable entity (e.g. components, units and devices) disclosed herein, e.g. selection unit, are at least in part provided in the form of respective computer programs which enable a processor device to provide the functionality of the respective entities as disclosed herein. According to other embodiments, any suitable entity disclosed herein may be provided in hardware. According to other—hybrid—embodiments, some entities may be provided in software while other entities are provided in hardware.

[0105] It should be noted that any entity disclosed herein (e.g. components, units and devices) are not limited to a

dedicated entity as described in some embodiments. Rather, the herein disclosed subject matter may be implemented in various ways and with various granularities on device level while still providing the desired functionality. Further, it should be noted that according to embodiments a separate entity (e.g. a software module, a hardware module or a hybrid module) may be provided for each of the functions disclosed herein. According to other embodiments, an entity (e.g. a software module, a hardware module or a hybrid module (combined software/hardware module)) is configured for providing two or more functions as disclosed herein.

[0106] It should be noted that the term “comprising” does not exclude other elements or steps. It may also be possible in further refinements of the invention to combine features from different embodiments described herein above. It should also be noted that reference signs in the claims should not be construed as limiting the scope of the claims.

LIST OF REFERENCE SIGNS

[0107]	100 Optical transport network
[0108]	101 Network management system
[0109]	102 User
[0110]	103 Connection to remaining network
[0111]	110 Selection unit
[0112]	120 Determination unit
[0113]	130 Definition unit
[0114]	140 Sub-selection unit
[0115]	200 Optical transport network
[0116]	201 User interface
[0117]	202 Display device
[0118]	300 Optical transport network

1. A network management system for a transport network, wherein services are transmittable via the transport network by using at least one of a plurality of containers, wherein each of the plurality of containers is adapted to transmit data with a specific bandwidth, wherein each of the plurality of containers is multiplexable, according to a dynamic multiplexing structure, to at least another container being adapted to transmit data with a higher bandwidth, the network management system comprising
 - a selection unit being adapted to select a container being adapted to transmit data with a first bandwidth out of the plurality of containers,
 - a determination unit being adapted to determine all containers of the plurality of containers being adapted to transmit data with a bandwidth lower than the first bandwidth,
 - a definition unit being adapted to define all possible termination points for each determined container, wherein the definition unit is adapted to define all possible termination points before a service to be transmitted is selected by a user, and a sub-selection unit being adapted to select a number of the possible termination points for each determined container based on a selection scheme in order to provide the selected number of the possible termination points to the user.
2. The network management system as set forth in claim 1, wherein the transport network is an optical transport network, and wherein the plurality of containers is a plurality of optical channel data units.
3. The network management system as set forth in claim 2, wherein the selection unit, the determination unit, the defini-